

United States Patent [19]

Robbins, III

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[54] TEMPERATURE-CONTROLLED
ACCELERATED WEATHERING DEVICE

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73/865.6; 236/DIG. 9; 356/51

[58] Field of Search 374/33, 9, 57; 126/419;
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[57] ABSTRACT

A temperature-controlled accelerated weathering test apparatus concentrates solar radiation upon target samples and controls the flow rate of cooling ambient air circulated across the target samples in order to maintain the target sample temperature substantially constant despite variations in ambient daytime temperature and variations in solar radiation intensity. A temperature sensor is secured to an aluminum panel mounted upon the target board of the test apparatus proximate to the target samples for generating an electrical signal relating to the temperature of the target samples. The temperature sensor and related aluminum panel are coated black to enhance absorption of solar radiation. A controller responsive to the electrical signal generated by the temperature sensor controls the application of electrical power to a blower motor used to circulate cooling ambient air across the target samples. The controller increases the speed of the blower motor when the sensed temperature of the target samples is above a predetermined set point, and decreases the speed of the blower motor when the sensed temperature of the target samples is below the predetermined set point.

10 Claims, 3 Drawing Sheets

